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Healthcare Simulation Standards of Best Practice™ Simulation Glossary

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As the science of simulation continues to evolve, so does the need for additions and revisions to the Healthcare Simulation Standards of Best Practice™. Therefore, the Healthcare Simulation Standards of Best Practice™ are living documents.

Simulation Glossary Statement

Consistent terminology provides guidance and clear communication, reflecting shared values in simulation experiences, research, and publications. The goal of advancing the science of simulation is dependent on the consistent use of this inclusive terminology.

Background

Standardized terminology enhances understanding and communication among planners, participants, and others involved in simulation-based experiences (SBEs), regardless of the simulation environment. Thus, standardization of simulation terminology promotes consistency in education, practice, research, and publication. The definitions in the Healthcare Standards of Best Practice™ Simulation Glossary correspond to the other Healthcare Simulation

Standards of Best Practice™ and are designed to explain the meaning of terms in the Standards. Although there may be some definitions in the Simulation Glossary that are also in the Healthcare Simulation Dictionary (e.g., Avatar), the use of these definitions in the Healthcare Simulation Standards of Best Practice™ (HSSOBP™) is important.¹ Potential consequences of not using the Simulation Glossary may be: confusion, miscommunication, misunderstanding, and/or inability to achieve intended objectives and expected outcomes of SBEs.

The terminology used in both *The Healthcare Simulation Dictionary Version 2.0** and the *Healthcare Simulation Standards of Best Practice™ Simulation Glossary* provides clarity for simulationists, a better understanding of subject matter, and an attempt at a universal language in the ever-expanding world of healthcare simulation. In the updated Simulation Glossary, there is an attempt to compile terms

to enhance communication. A few examples of these include the following:

- Participant to Learner
- Facilitator to Simulationist
- Virtual Reality Experience to Technology Enhanced Learning

TERMS

Affective

Refers to a domain of learning that involves attitudes, beliefs, values, feelings, and emotions. Classification of this learning domain is hierarchal, where learning occurs along a continuum of stages related to internal personal, and professional growth.²⁻⁵ See Domains of Learning.

Assessment

Refers to processes that provide information about or feedback about individual participants, groups, or programs. Specifically, assessment refers to observations of progress related to knowledge, skills, and attitudes (KSA). Findings of assessment are used to improve future outcomes.⁵ Compare to evaluation.

Avatar

A graphical representation, typically three-dimensional, of a person capable of relatively complex actions, including facial expression and physical responses while participating in a virtual SBE. The user controls the Avatar by using a mouse, keyboard, or a type of joystick to move through the virtual SBE.^{1,6}

Backstory

A narrative, which provides a history and/or background and is created for a fictional character(s) and/or about a situation for a SBE.⁷

Clinical Scenario

Pertaining to an actual or SBE related to the care of individuals, families, or groups in health care settings, which permits opportunities for application of KSA.^{8,9}

Clinical Judgment

The art of making a series of decisions to determine whether to take action based on various types of knowledge. The individual recognizes changes and salient aspects in a clinical situation, interprets their meaning, responds appropriately, and reflects on the effectiveness of the intervention. Clinical judgment is influenced by the individual's previous experiences, problem-solving, critical thinking, and clinical-reasoning abilities.

Clinical Reasoning

A process that involves both thinking (cognition) and reflective thinking (metacognition) to gather and comprehend data while recalling knowledge, skills (technical and non-technical), and attitudes about a situation as it unfolds. After analysis, information is put together into meaningful conclusions to determine alternative actions.¹⁰⁻¹⁵

Coaching

A method of directing or instructing a person or group of people to achieve a goal or goals, develop a specific skill or skills, or develop a competency or competencies.^{8,9}

Cognitive

Refers to a domain of learning that includes knowledge, comprehension, application, analysis, synthesis, and evaluation. The goal of learning in this domain is to help participants progress to higher levels of learning so that they can make judgments about the subject at hand.^{2,5}

Competence

Demonstrates the ability to perform a specific role or skill based on standardized criteria. Individuals having the state or quality of being adequately or well qualified to do a job properly. The criteria may include a set of defined behaviors that guide the identification, development, and evaluation of one's ability to perform a specific role.¹⁶

Concept Mapping

A teaching strategy or method of visualizing relationships among various concepts. It includes a branching, hierarchical diagram of concepts showing how

they are connected using arrows and labels to identify interrelationships.¹⁷

Constructivism

The philosophical theory of learning that views knowledge as something that individuals create for themselves through their interaction with their environment. In constructivism, learning is a process of discovery whereby the learner seeks to understand issues, guiding the personally relevant discovery process. Simulation has a basis in constructivist theories.¹⁸

Critical Thinking

A disciplined process that requires validation of data, including any assumptions that may influence thoughts and actions, and then careful reflection on the entire process while evaluating the effectiveness of what has been determined as the necessary action(s) to take. This process entails purposeful, goal-directed thinking and is based on scientific principles and methods (evidence) rather than assumptions or conjecture. See Figure.^{19–21}

Cue (Also known as Prompt)

Information provided that helps the participant(s) process and progress through the scenario to achieve stated objectives. Cueing comprises two types, conceptual and reality cues, with the mode of delivery enacted via equipment, environment, or patient and role characters. Conceptual cues provide the learner with information to achieve expected outcomes in an SBE. Reality cues help the learner interpret or clarify simulated reality through information delivered by the simulated patient or role characters.^{22,23}

Debriefing

A reflective process immediately following the SBE that is led by a trained facilitator using an evidence-based debriefing model. Participants' reflective thinking is encouraged, and feedback is provided regarding the participants' performance while various aspects of the completed simulation are discussed. Participants are encouraged to explore emotions and question, reflect, and provide feedback to one another. The purpose of debriefing is to move toward assimilation and accommodation to transfer learning to future situations.^{22,24}

Decision-Making

An outcome of mental processes (cognitive process) leading to the selection of a course of action from among several alternatives.^{8,9}

Diversity

A concept, which includes an understanding of the uniqueness of individuals and a recognition of the differences among people. Dimensions of diversity include race, ethnicity, gender, age, religion, socioeconomic status, physical ability or disability, sexual orientation as well as religious, political, or other beliefs.^{25–27}

Domains of Learning

Three separate yet interdependent components of learning outcomes achievable by human learners. These domains: cognitive, affective, and psychomotor, represent various categories and levels of learning complexity and are commonly referred to as educational taxonomies. See cognitive, affective, and psychomotor entries for further detail.

Embedded Simulation Participant (Also known as Standardized Participant, Standardized Patient, Scenario Guide, Scenario Role-Player, or Actor)

A role assigned in a simulation encounter to help guide the scenario. The guidance may be positive, negative, or neutral or as a distracter, depending on the objective(s), the level of the participants, and the scenario. Although the embedded participant's role is part of the situation, the underlying purpose of the role may not be revealed to the participants in the scenario or simulation.¹

Evaluation

A broad term for appraising data or placing a value on data gathered through one or more measurements. It involves rendering a judgment including strengths and weaknesses.

Evaluation measures quality and productivity against a standard of performance.²⁸ Evaluation may be formative, summative, high-stakes, or related to the simulation program or process.

- Formative Evaluation

Evaluation wherein the facilitator's focus is on the participant's progress toward goal attainment through preset criteria; a process for an individual or group engaged in a simulation activity to provide constructive feedback for that individual or group to improve.^{5,22}

- Summative Evaluation

Evaluation at the end of a learning period or at a discrete point in time in which participants are provided with feedback about their achievement of outcome through preset criteria; a process for determining the competence of a participant engaged in health care

activity. The assessment of achievement of outcome criteria may be associated with an assigned grade.^{5,22}

- High-Stakes Evaluation

An evaluation process associated with a simulation activity with a major academic, educational, or employment consequence (such as a grading decision, including pass or fail implications; a decision regarding competency, merit pay, promotion, or certification) at a discrete point in time.²⁹ High stakes refer to the outcome or consequences of the process.

- Program or Process Evaluation

A systematic collection of information about the activities, characteristics, and outcomes of SBEs to make judgments about the program, improve or further program effectiveness, increase understanding, and inform decisions about future programming.³⁰ Specifically, the process includes an appraisal of the embedded participant(s), facilitator(s), the SBE, the facility, and the support team.

Facilitation

A method and strategy that occurs throughout (before, during, and after) SBEs in which a person helps bring about an outcome(s) by providing guidance.³¹

Facilitator (Also known as Simulationist, Educator, or Faculty)

A trained individual who provides guidance, support, and structure at some or all stages of simulation-based learning, including prebriefing, simulation, and/or debriefing.^{8,9}

Feedback

Information given or dialog between participants, facilitator, simulator, or peer with the intention of improving the understanding of concepts or aspects of performance.³¹

Fiction Contract

The implicit or explicit agreement among participants and facilitator(s) about how the participant is expected to interact with the simulated situation and how the facilitators will treat that interaction.³²

Frame(s)

The invisible "lens" through which individuals interpret new information and experiences to make meaning from the new experience. Frames are formed through previous experiences and can be based on knowledge, atti-

tudes, feelings, goals, rules, and/or perceptions; the internal participant or facilitator mindset; knowledge, thoughts, feelings, actions (speech/body language), attitudes (verbal/nonverbal), and perceptions.^{33,34}

Haptic Device

Computer technology, generally three-dimensional in nature, that integrates proprioception (touch) to allow the participant(s) to interact with and control the virtual equipment based on feedback from the system. Haptics can be used to simulate touching, palpating an organ or body part, and/or cutting, tearing, or applying traction on tissue, such as when using simulated virtual chest tube or virtual intravenous insertion systems. Participant decision-making is greatly influenced by the feedback received from the system.^{1,35}

Hybrid Simulation

The use of two or more modalities of simulation modalities to enhance the fidelity of a scenario by integrating the environment, physiology, emotions, and dialog of a real patient encounter. For example, the use of a manikin to represent the patient, while the embedded participant assumes the role of the patient's voice or takes on the role of a distraught family member.^{1,36}

In Situ

A SBE conducted in the actual patient care area/setting in which the health care providers would normally function to achieve a high level of fidelity.^{1,37–39}

Interprofessional Education

When students [or healthcare professionals] from two or more professions learn about, from, and with each other to enable effective collaboration and improve health outcomes.⁴⁰

Intervention Fidelity

Refers to the adherence and delivery of a research plan as designed. Any variation from the design must be addressed.^{41–45}

Knowledge, Skills, Attitudes (KSA)

Acronym for knowledge, skills, and attitudes necessary to continuously improve the quality and safety of the health care systems within which individuals work.⁴⁶

- Knowledge

The awareness, understanding, and expertise an individual acquires through experience or education.

- Skills

Ability acquired through deliberate practice and sustained efforts to carry out activities.

- Attitudes

A tendency to respond positively or negatively toward an idea, an individual, or situation.

Learner (Also known as Participant)

One who engages in a simulation-based activity for the purpose of gaining or demonstrating mastery of KSA of professional practice.⁸

Life Savers

A methodology to manage unexpected events that occur during SBEs. Plans may be determined before and/or interventions may occur spontaneously during scenarios that allow participants to complete the simulation.⁴⁷ See also prompt (cue).

Modality

A term used to refer to the type(s) of simulation being used as part of the simulation activity, for example, task trainers, manikin based, standardized/simulated patients, computer-based, virtual reality, and hybrid.¹

Moulage

The technique of creating simulated wounds, injuries, diseases, the aging processes, and other physical characteristics specific to a scenario. Moulage supports the sensory perceptions of participants and supports the fidelity of the simulation scenario through the use of makeup, attachable artifacts (e.g., penetrating objects), and smells.^{48,49}

Needs Assessment

A systematic process of identifying gaps in knowledge, skills, or attitudes of the learner.⁵⁰

Objective

Statements of specific, measurable results that participants are expected to achieve during an SBE. Statements may encompass cognitive (knowledge), affective (attitude), or

psychomotor (skills) domains of learning that match the learners' level of knowledge and experience.^{51–53}

Outcome

Measurable results of the participants' progress toward meeting a set of objectives. Expected outcomes are the change in knowledge, skills, or attitudes resulting from the simulation experience.^{8,9}

Participant (Also known as Learner)

One who engages in a simulation-based activity for the purpose of gaining or demonstrating mastery of KSA of professional practice.⁸

Prebriefing

An information or orientation session immediately prior to the start of a SBE in which instructions or preparatory information is given to the participants. One purpose of prebriefing is to establish a psychologically safe environment for participants.⁵⁴ Suggested activities include reviewing objectives, creating a "fiction contract"; and orienting participants to the equipment, environment, mannequin, roles, time allotment, and scenario.

Procedural Simulation

The use of a simulation modality (e.g., task trainer, manikin, computer) to assist in the process of learning to complete a technical skill(s) or a procedure, which is a series of steps taken to accomplish an end.¹

Problem Solving

Refers to the process of selectively attending to information in the patient care setting, using existing knowledge, and collecting pertinent data to formulate a solution. This complex process requires different cognitive processes, including methods of reasoning and strategizing, in order to manage a situation.⁵⁵ Compare with clinical reasoning/judgment.

Professional Boundaries

Clear and defined limits which are established to maintain effective and appropriate interactions/behaviors among all participants involved with a SBE.⁵⁵

Professional Integrity

A trait exhibited by one's ability to consistently and willingly practice within the guidelines of the code of ethics of a chosen profession.^{57–59}

Prompt (Also known as Cue)

A hint or clue given to a participant in a scenario. See also “life saver”.

Psychomotor

Refers to a domain of learning involving skills required in an area of professional practice.⁶⁰

Psychomotor Skill

The ability to carry out kinesthetic or physical movement efficiently and effectively, with speed and accuracy. Psychomotor skill is more than the ability to perform; it includes performing proficiently, smoothly, and consistently under varying conditions and within appropriate time limits.⁶⁰

Reflective Thinking

The engagement of self-monitoring that occurs during or after a simulation experience. Considered an essential component of experiential learning, it promotes the discovery of new knowledge with the intent of applying this knowledge to future situations. Reflective thinking is necessary for metacognitive skill acquisition and clinical judgment and has the potential to decrease the gap between theory and practice. Reflection requires creativity and conscious self-evaluation to deal with unique patient situations.^{61–68}

Reliability

The consistency of a measurement or the degree to which an instrument measures in the same way each time it is used under the same conditions with the same participants.

It is the repeatability of a measurement. A measurement is considered reliable if a person's scores on the same test given twice are similar. Reliability can be determined by a test-retest method or by testing for internal consistency.^{8,9}

Role

A responsibility or character assumed in a SBE.^{8,9}

Safe Learning Environment

The emotional climate that is created through the interaction among all participants (including facilitators). In this positive emotional climate, all participants feel at ease taking risks, making mistakes, or extending themselves beyond their comfort zone. Awareness of the psychological aspects of learning, the effects of unintentional bias, cultural differences, and attentiveness to one's own state of mind helps to effectively create a safe environment.⁸

Scenario

A deliberately designed simulation experience (also known as a case), that provides participants with an opportunity to meet identified objectives. The scenario provides a context for the simulation and can vary in length and complexity, depending on the objectives.^{52,54,69–71}

Self-Efficacy

An individual's perception or belief in his or her ability to achieve. This may be reflected in how an individual behaves and/or performs.⁷²

Simulation

An educational strategy in which a particular set of conditions are created or replicated to resemble authentic situations that are possible in real life. Simulation can incorporate one or more modalities to promote, improve, or validate a participant's performance.⁷³

Simulation-Based Experience(s) (Also known as Simulation-based Learning Experiences (SBLE), or Simulation-based Education)

A broad array of structured activities that represent actual or potential situations in education, practice, and research. These activities allow participants to develop or enhance knowledge, skills, and/or attitudes and provide an opportunity to analyze and respond to realistic situations in a simulated environment.⁷⁴

Simulation-Enhanced Interprofessional Experience

Simulation-based activities in which participants and facilitators from two or more professions are placed into a simulated health care experience in which “. shared or linked educational goals are pursued,⁷⁵ while the individuals involved “learn from, about, and with each other to enable effective collaboration and improve health outcomes”.⁷⁶

Standardized Patient (Also known as Embedded Simulation Participant, Simulated Patient, Standardized Participant, Scenario Guide, Scenario Role Player, or Actor)

A person trained to consistently portray a patient or other individual in a scripted scenario for the purposes of instruction, practice, or evaluation.^{1,77}

Technology-Enhanced Simulation (Also known as Computer-Assisted Simulation, Computer-Based Simulation, Virtual Reality)

This is a blanket-term used within the standards describing a simulation-based learning activity designed to provide an experience through the direct or assisted-use of an electronic medium. Formerly confined to computers, this field is evolving with the applications of technology and relates to learners being able to complete specific tasks in a variety of immersive environments, use information to provide assessment and care, make clinical decisions, and observe the results in action.⁷⁸

Validity

The degree to which a test or evaluation tool accurately measures the intended concept of interest.^{8,9}

Virtual Learning Experience (Also known as Technology-enhanced Simulation, Computer-Assisted Simulation, Computer-Based Simulation)

A computer-generated reality, which allows a learner or group of learners to experience various auditory and visual stimuli. This reality can be experienced through the use of specialized ear and eyewear.^{1,78,79}

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Support Document: *The Healthcare Simulation Dictionary Version 2.0**

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About the International Nursing Association for Clinical Simulation and Learning (INACSL)

The International Nursing Association for Clinical Simulation and Learning (INACSL) is the global leader in transforming practice to improve patient safety through excellence in health care simulation. INACSL is a community of practice for simulation where members can network with simulation leaders, educators, researchers, and industry partners. INACSL also provided the original living documents INACSL Standards of Best Practice: SimulationSM, an evidence-based framework to guide simulation design, implementation, debriefing, evaluation, and research. The Healthcare Simulation Standards of Best PracticeTM are provided with the support and input of the international community and sponsored by INACSL.